GEOCHEMICAL COMPOSITION OF ZEOLITIC ROCKS FROM MUNELLA REGION (OPHIOLITIC COMPLEX OF ALBANIA)

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Zeolitic rocks are found between the supra subduction zone (SSZ) type volcanic rocks of the Munella region, in the northeastern part of the Mirdita geotectonic zone (Jurassic Albanian Ophiolitic Complex). From the bottom to the top, the volcanic section consists of basalts, basaltic andesites, dacites and rhyolites. Zeolitic rocks crop out as up to 2–3 m thick, separated layers, intercalated with rhyolites, dacites and andesites of the uppermost part of the volcanic sequence (SHALLO, 1994; BECCALUVA *et al*., 1994).

Based on the SiO_2 content, the zeolitic rocks of Munella belong to andesite-rhyodacite group, bearing low Ti, saturated in Si. In the Na_2O+K_2O – SiO_2 diagram (not shown) they fall in the sub-alkaline field, whereas in the SiO_2 – FeO*/MgO diagram (not shown) they clearly display calc-alkaline features (BEQIRAJ GOGA, 2005).

Sample	Mu1	Mu2/3	Mu3/5	Mu4/1	Mu5	Mu6
SiO_2	60.95	72.70	60.20	65.26	64.77	69.97
Al_2O_3	11.97	10.08	12.44	11.63	11.40	10.10
Fe_2O_3	5.84	4.13	5.69	4.27	5.48	3.21
MnO	0.056	0.053	0.072	0.083	0.092	0.080
MgO	2.07	0.82	1.19	0.97	0.90	0.37
CaO	5.18	2.90	6.15	4.72	4.71	4.72
Na_2O	0.27	1.82	0.39	0.98	0.58	0.28
K_2O	0.09	1.01	0.14	0.54	0.80	0.27
TiO_2	0.378	0.308	0.411	0.362	0.364	0.305
P_2O_5	0.10	0.08	0.16	0.09	0.09	0.07
LOI	13.01	6.48	13.27	11.00	1.11	10.84
Total	99.92	100.38	100.11	99.89	100.28	100.23

In addition, in FeO^{tot} – FeO^{tot} /MgO and K_2O – SiO_2 diagrams (not shown) the zeolitic rocks fall within the field of tholeiite. As a whole, the zeolitic rocks show a geochemical character similar with that of the host medium-acid volcanic rocks.

In general, the contents of REE in the Munella zeolitic rocks are low, almost near the values expected for the MORB. Their normalized values to MORB are 4–5 times lower than the expected concentration in the host medium-acid volcanic rocks. The nearly flat patterns of their normalized values to MORB show neither differentiation nor fractionation.

References

BECCALUVA, L. (1994): Ofioliti, 19(1): 77–96.
BEQIRAJ (GOGA), E. (2005): PhD Thesis. Polytechnic University of Tirana, 173 p.
SHALLO, M. (1994): Ofioliti, 19(1): 57–75.